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- (a) processing a first stream of the water with a first removal apparatus for removing from the water ionized and/or ionizable organic carbon compounds, wherein at least some of such ionized and/or ionizable organic carbon compounds are susceptible to conversion to non-ionized and/or non-ionizable organic carbon compounds by an agent for converting non-ionized and/or non-ionizable organic compounds into ionized and/or ionizable organic compounds, to produce a first product stream containing a smaller concentration of ionized and/or ionizable organic carbon compounds than the first stream;
- (b) contacting the first product stream with an agent for converting non-ionized and/or non-ionizable organic carbon compounds into ionized and/or ionizable organic carbon compounds at a time and a temperature sufficient to form a second product stream containing a smaller concentration of non-ionized and/or non-ionizable organic carbon compounds and a larger concentration of ionized and/or ionizable organic carbon compounds than the first product stream;
- (c) processing the second product stream with a second removal apparatus for removing ionized and/or ionizable organic carbon compounds from the water to form a third product stream containing a smaller concentration of ionized and/or ionizable organic carbon compounds and non-ionized and/or non-ionizable organic carbon compounds than the first stream; and
- (d) recovering the third product stream from step (c), wherein at least one of said first removal apparatus and said second removal apparatus is selected from the group consisting of electrically regenerated ion exchange apparatus, electrodeionization apparatus, electrodialysis apparatus, filled cell electrodialysis apparatus and electrodiuresis apparatus.

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5. A method according to claim 4 wherein the agent comprises radiation characterized by wavelengths of about 184.9 nm.

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12. An apparatus for removing both (i) ionizable and/or ionized organic carbon compounds and (ii) non-ionized and/or non-ionizable organic carbon compounds from water comprising:
- (a) a first removal means for removing from the water ionized and/or ionizable organic carbon compounds, wherein at least some of such ionized and/or ionizable organic carbon compounds are susceptible to conversion to non-ionized and/or non-ionizable organic carbon compounds by a conversion means for converting non-ionized and/or non-ionizable organic carbon compounds into ionized and/or ionizable organic carbon compounds, to produce a first product stream containing a smaller concentration of ionized and/or ionizable organic carbon compounds than the first stream;
 - (b) a conversion means for converting non-ionized and/or non-ionizable organic carbon compounds into ionized and/or ionizable organic carbon compounds at a time and a temperature sufficient to form a second product stream containing a smaller concentration of non-ionized and/or non-ionizable organic carbon compounds and a larger concentration of ionized and/or ionizable organic carbon compounds than the first product stream;
 - (c) a second removal means for removing ionized and/or ionizable carbon compounds from the water to form a third product stream containing a smaller concentration of ionized and/or ionizable organic carbon compounds and non-ionized and/or non-ionizable organic carbon compounds than the first stream; and
 - (d) a recovery means for recovering the third product stream;
- wherein at least one of said first removal means and said second removal means is selected from the group consisting of electrically regenerated ion exchange apparatus, electrodeionization apparatus, electrodialysis apparatus, filled cell electrodialysis apparatus and electrodiagnosis apparatus.